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Chapter 514

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The attached is a true copy of the Short-term Patent Application No. 03102213.4, which is still pending.



Dated this 11th day of July 2003.


(YIP CHIU YING RITA)
Intellectual Property Examiner
for Registrar of Patents

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26 MAR 2003

Request for Grant of a Short-Term Patent

Patents Ordinance sections 113, 116, 125


Patents (General) Rules sections 58, 74


(See the notes on the last page of this form)

01 Your reference	109697
02 Applicant's details (see note (4)(a)) Name (underline surname) Name in Chinese (if applicable) Address Telephone Fax Kind of incorporation Country of incorporation State of incorporation (if applicable)	Golden Peak Plastic Works Limited 金峰塑膠製品有限公司 4/F., Yau Tong Industrial Building, Block 1, 2 Shung Shun Street, Yau Tong, Kowloon, Hong Kong. 2775-0285 2772-7714 Limited Liability Company Hong Kong --
03 Title of invention (see note (4)(b))	English Suction-Adhesive Device, Chinese 抽吸粘結裝置

04 Details of International Patent Classification <i>(see note (5))</i>	IPC Code F16B 47/00 A47G 29/087	IPC Edition No. 7 th Edition
05 Use of micro-organisms <i>(tick the appropriate box)</i> (a) Does the invention require the use of a micro-organism for its performance? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (b) If you have ticked "Yes", please indicate whether the micro-organism is available to the public at the date of filing of the application; and whether the micro-organism is described in the application or the specification of the patent in such a manner as to enable the invention to be performed by a person skilled in the art. <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No (c) If you have ticked "No" in both boxes in (b), please give the following details: Name and address of the depositary institution where a culture of the micro-organism is deposited Date of deposit <div style="text-align: right;"><i>(Day/Month/Year)</i></div> Accession No. of the deposit <i>(section 73 and Schedule 1, Patents (General) Rules)</i>	<div style="border: 1px solid black; height: 100px; width: 100%;"></div>	
06 Details of international application If the short-term patent application is based on (a) International Application No. (b) International Filing Date <div style="text-align: right;"><i>(Day/Month/Year)</i></div> (c) International Publication No. (d) International Publication Date <div style="text-align: right;"><i>(Day/Month/Year)</i></div> (e) Date of entry into the national phase in the People's Republic of China or Date of issuance of the National Application Notification by the State Intellectual Property Office <i>(tick the appropriate box and enter the date in the space provided).</i>	<div style="border: 1px solid black; height: 100px; width: 100%;"></div>	

<p>(f) Application No. of the Chinese patent application (if known)</p> <p><i>(section 125, Patents Ordinance and section 78, Patents (General) Rules)</i></p>									
<p>07 Details of earlier application If the application is divided or derived from an earlier Hong Kong application</p> <p>(a) Section under which an earlier application is claimed <i>(see note (6))</i> <i>(tick the appropriate box)</i></p> <p>(b) Earlier Application No.</p> <p>(c) Earlier Application Filing Date <i>(Day/Month/Year)</i></p>	<p style="text-align: center;">Patents Ordinance</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <input type="checkbox"/> section 116 </div> <div style="text-align: center;"> <input type="checkbox"/> section 55 </div> </div> <p>N/A</p>								
<p>08 Details of the priority application If a statement of claim of priority under section 111, Patents Ordinance is made <i>(sections 58(5)(c), 69, Patents (General) Rules)</i></p>	<p>Statement</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 33%;">Country</th> <th style="width: 33%;">Priority Application No.</th> <th style="width: 33%;">Priority Application Filing Date</th> </tr> <tr> <td style="text-align: center;">Hong Kong</td> <td style="text-align: center;">02105663.3</td> <td style="text-align: center;">1 August 2002</td> </tr> </table>			Country	Priority Application No.	Priority Application Filing Date	Hong Kong	02105663.3	1 August 2002
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Hong Kong	02105663.3	1 August 2002							
<p>09 Details of inventor <i>(see note (4)(a))</i> <i>(see note (7))</i></p> <p style="text-align: right;">Name <i>(underline surname)</i></p> <p style="text-align: right;">Name in Chinese <i>(if applicable)</i></p> <p style="text-align: right;">Address</p>	<p><u>Kwok</u> Chin Pang</p> <p>郭展鵬</p> <p>4/F., Yau Tong Industrial Building, Block 1, 2 Shung Shun Street, Yau Tong, Kowloon, Hong Kong.</p>								
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<p>13 Name of agent <i>(if you have one)</i></p> <p>Address for service in Hong Kong</p> <p>Telephone</p> <p>Fax</p> <p>Agent's code <i>(if known)</i></p>	<p>Victor Chu & Co., Solicitors</p> <p>19th Floor, Tower II The Gateway Harbour City Kowloon Hong Kong</p> <p>2956-1818</p> <p>2956-1161</p>
<p>14 I/We request the Registrar to grant a short-term patent.</p> <p>Signature</p> <p>Name of signatory</p> <p>Official capacity of signatory</p> <p>Date <i>(Day/Month/Year)</i></p>	 <p>VICTOR CHU & CO., SOLICITORS</p> <p>Agents for the applicant</p> <p>26 March 2003</p>

Notes

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- (8) *Please refer to section 109, Patents Ordinance and sections 58(5)(e), 58(5)(f), 70, Patents (General) Rules for such claim of non-prejudicial disclosure.*
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SUCTION-ADHESIVE DEVICE

BACKGROUND OF THE INVENTION

5 The present invention relates to a suction-adhesive device. More particularly, although not exclusively, the invention relates to a device including a suction cup and a hook, typically for attachment to a bathroom wall tile, window or shower screen and from which articles such as a
10 face washer, corded soap, a shower cap or other articles may be suspended.

It is known to use suction cup devices for securing items to a bathroom wall tile for example. Small soap dishes
15 for example can comprise two such suction cups. The suction cups usually comprise a bulbous protrusion in the centre that passes through an aperture in the side of the soap dish. It is also known to provide suction cups with a hook from which items can be suspended. The hook may be
20 integrally moulded with the cup or formed of a less-flexible material and attached to the cup.

The above and other known suction cup devices tend to hold more securely to a surface if the face of the
25 suction cup, and/or the surface itself is moistened prior to attachment. Sooner or later however, air enters into the space between the cup and the surface and the device becomes detached and usually falls to the floor. This

invariably occurs without advance warning, as there is no obvious visual indication that air has entered the space.

OBJECTS OF THE INVENTION

5

It is an object of the present invention to overcome or substantially ameliorate the above disadvantage and/or more generally to provide an improved suction-adhesive device.

10

DISCLOSURE OF THE INVENTION

15

According to the invention, there is provided a suction-adhesive device comprising a suction cup, a stem extending from the suction cup, a body through which the stem extends, and a spring interacting with the stem and the body for biasing the suction cup towards the body to apply suction. A visual indicator is fixed with respect to the stem for indicating when the spring has drawn the suction cup towards the body.

20

Preferably, the visual indicator is attached to or formed integrally with the stem.

25

Preferably, the visual indicator is a ring of contrasting colour compared with the body or a part thereof adjacent the ring.

In a preferred embodiment, the device includes locking means interacting with the body and the stem for selectively fixing the stem with respect to the body against deformation of the spring.

5

More preferably, the device further includes a handle attached movably to the body and interacting with the locking means.

10 It is preferred that the body includes a neck through which the stem extends and beyond which the visual indicator protrudes when the spring has drawn the suction cup toward the body.

15 In a specific construction, the locking means comprises a slide plate having a tongue extending therefrom and a cam surface. There is attached to the handle a pawl engaging with the cam surface, and the neck has an aperture through which the tongue passes to interact with the stem.

20

More specifically, the tongue interacts with an aperture in the visual indicator.

It is preferred that the handle is shaped like a hook.

25

For convenience, the stem has a pushbutton for depression against the action of the spring.

For convenience, the stem has a pushbutton against which the handle can press.

BRIEF DESCRIPTION OF THE DRAWINGS

5

A preferred form of the present invention will now be described by way of example only with reference to the accompanying drawings, in which:

10 Figure 1 is a perspective view of an embodiment of a suction-adhesive device in accordance with the invention;

Figure 2 is a cross-sectional side view of the device taken along line II-II of Figure 1, the device being in a
15 first configuration;

Figure 3 is a cross-sectional side view of the device of Figure 1, the device being in a second configuration;

20 Figure 4 is a cross-sectional side view of the device of Figure 1, the device being in a third configuration; and

Figure 5 is an exposed perspective view of the device of Figures 1 to 4.

25

DESCRIPTION OF THE PREFERRED EMBODIMENT

In the accompanying drawings, there is schematically

depicted a suction-adhesive device 10. The device 10 comprises a body 11 typically moulded from rigid plastics material. The body 11 includes a neck 16 through which a stem 19 extends. At the top of the stem 19 there is provided a pushbutton 13.

A coil spring 18 is situated beneath the pushbutton 13 and surrounds an upper portion of the stem 19. The bottom end of the compression spring 18 bears downwardly on the body 11 to bias the stem 19 upwardly.

Surrounding an upper portion of the compression spring 19 and affixed with respect to the pushbutton 13 is a coloured ring 17. The ring 17 has a contrasting colour compared with that of the body 11 or its neck 16 and is preferably in red colour, and can be glued or otherwise adhered to the downwardly projecting annular lip of the pushbutton 13.

The stem 19 has at its bottom a flange 20 to which there is attached a suction cup 14. Suction cup 14 is made of smooth, flexible material, such as rubber, silicon or other suitable flexible, substantially fluid-impervious material. The suction cup 14 has a release tab 15 extending from its periphery.

In the configurations depicted in Figure 2, the suction cup 14 is biased upwardly by the spring 18 toward the

body 11.

Attached pivotally to the body 11 is a handle 12. The handle 12 is shaped like a hook. A pawl 26 extends
5 through a pair of webs 29 formed integrally with the body 11. Each web 29 has a large aperture therethrough to enable free turning of the pawl 26. The pawl 26 is shaped to fit tightly within a key-way of the same shape formed in the handle 12. Pawl 26 moves in unison with the handle
10 12.

Situated between the webs 29 is a slide plate 23. Slide plate 23 has a cam surface 25 being the inside edge of an aperture therethrough. The pawl 26 extends through this
15 aperture to engage with the cam surface 25.

The slide plate 23 has a tongue 24 passing through an aperture 22 in the neck 16 of the body 11. There is also provided an aperture 21 formed between the coloured ring
20 17 and the pushbutton 13 with which the tongue 24 can interact.

When in the configuration of Figure 2, the device has substantially no adhesive effect. To create a suction
25 effect, the pushbutton 13 can be depressed. Such depression may conveniently be by pressing directly thereon with one's thumb, or alternatively by movement of the handle 12 to the position depicted in Figure 3. When

the pushbutton 13 is depressed the suction cup 14 will be pushed away from the body 11 by neck 19.

If the suction cup 14 is already placed against a tile for example and the pushbutton 13 is depressed by thumb-force for example, the device takes on the configuration of Figure 4. By design however, it is equally possible that the handle 12 be pushed down upon the pushbutton 13 prior to placement of the suction cup 14 against a surface.

When the handle 12 is pushed down such that the device takes on the configuration shown in Figure 3, the pawl 26 pushes against the cam surface 25 to thereby cause the tongue 24 to pass through both apertures 22 and 21. As a result, the stem 19 is locked down against compression of spring 18. The suction cup 14 can then be placed against a surface and the handle 12 can be lifted, whereupon the pawl 26 pulls back on the cam surface 25 to draw the slide plate 23 away from the neck 16 to thereby release the tongue 24 from the aperture 21.

As a result, the stem 19 snaps into the position depicted in Figure 4 by action of the compression spring 18. This produces a suction effect between the suction cup 14 and the surface against which it bears. The suction cup 14 and/or the surface against which it is to be adhered can be pre-moistened if desired.

Over time, air will leak into the space between the suction cup 14 and the surface to which it is attached. The spring 18 will cause the stem 19 to protrude
5 gradually from the neck 16 and the coloured ring 17 will become exposed or visible. When this is noticed, one can easily push down upon the pushbutton 13 or press the handle 12 against the pushbutton 13 to expel air from the space between the suction cup 14 and the surface, thereby
10 renewing the suction.

As the handle 12 is shaped like a hook, items can be suspended from it.

15 It should be appreciated that modifications and alterations obvious to those skilled in the art are not to be considered as beyond the scope of the present invention. For example, rather than providing the visual means of indication upon the stem directly, a pin or
20 other extension from the suction cup might pass through another part of the body 11.

CLAIMS

1. A suction-adhesive device comprising:
 - a suction cup;
 - 5 a stem extending from the suction cup;
 - a body through which the stem extends;
 - a spring interacting with the stem and the body for biasing the suction cup towards the body to apply suction; and
 - 10 a visual indicator fixed with respect to the stem for indicating when the spring has drawn the suction cup towards the body.
2. The device of Claim 1, wherein the visual indicator
15 is attached to or formed integrally with the stem.
3. The device of Claim 1 or Claim 2, wherein the visual indicator is a ring of contrasting colour compared with the body or a part thereof adjacent the ring.
- 20 4. The device of any one of Claims 1 to 3, including locking means interacting with the body and the stem for selectively fixing the stem with respect to the body against deformation of the spring.
- 25 5. The device of Claim 4, further including a handle attached movably to the body and interacting with the locking means.

6. The device of any one of Claims 1 to 5, wherein the body includes a neck through which the stem extends and beyond which the visual indicator protrudes when the
5 spring has drawn the suction cup toward the body.

7. The device of Claim 4, wherein the locking means comprises a slide plate having a tongue extending therefrom and a cam surface, and wherein there is attached
10 to the handle a pawl engaging with the cam surface and wherein the neck has an aperture through which the tongue passes to interact with the stem.

8. The device of Claim 7, wherein the tongue interacts
15 with an aperture in the visual indicator.

9. The device of Claim 5, wherein the handle is shaped like a hook.

20 10. The device of any one of Claims 1 to 9, wherein the stem has a pushbutton for depression against the action of the spring.

11. The device of Claim 5, wherein the stem has a
25 pushbutton against which the handle can press.

ABSTRACT

SUCTION-ADHESIVE DEVICE

5 A suction-adhesive device (10) comprising a suction cup
(14), a stem (19) extending from the suction cup (14), and
a body (11) through which the stem (19) extends. A spring
(18) interacts with the stem (19) and the body (11) for
biasing the suction cup (14) towards the body (11) to
10 apply suction. A coloured ring (17) is fixed on the stem
(19) for indicating when the spring (18) has drawn the
suction cup (14) towards the body (11).

[Figure 2]

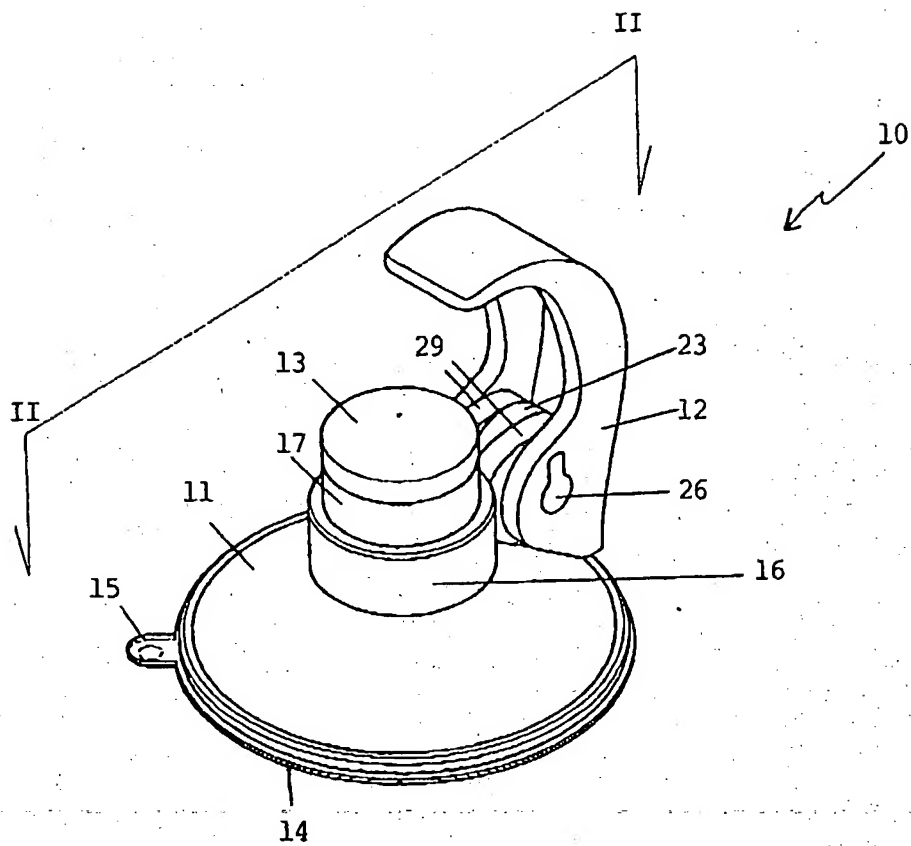


FIGURE 1

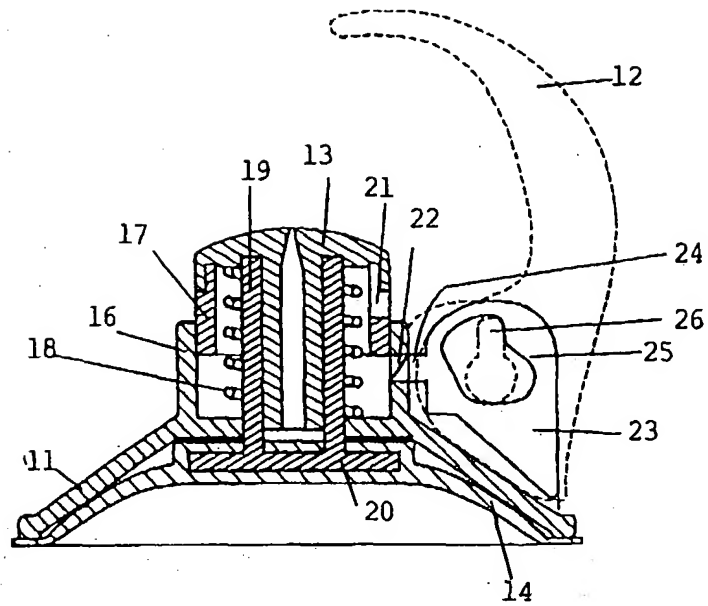


FIGURE 2

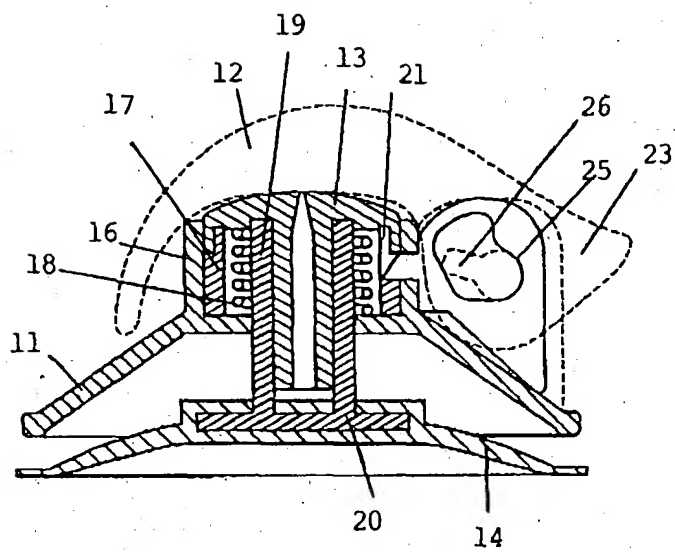


FIGURE 3

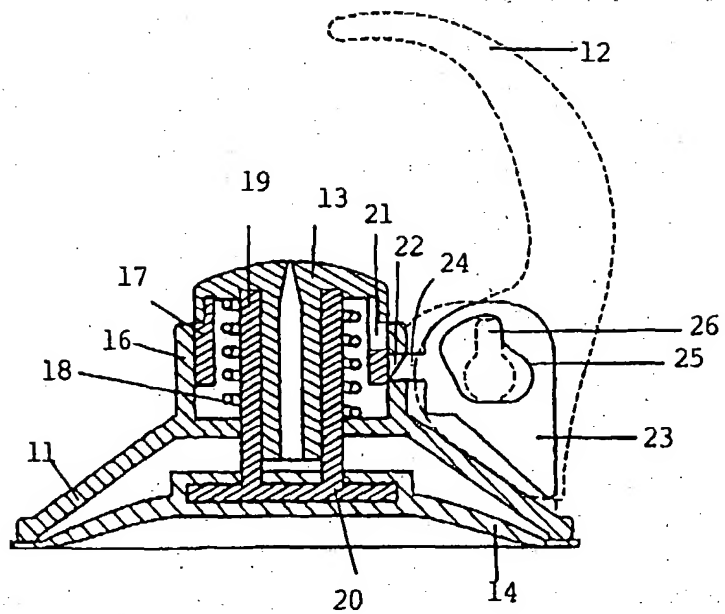


FIGURE 4

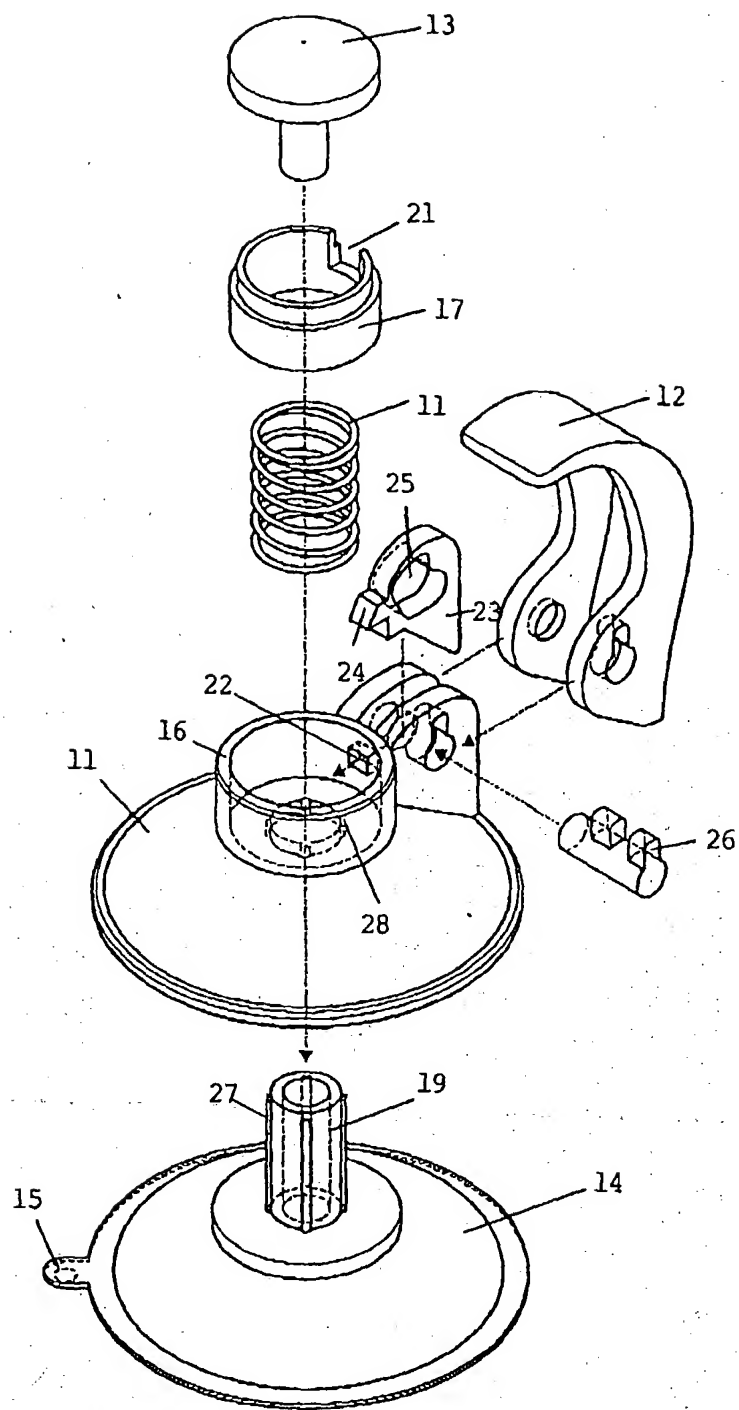


FIGURE 5